



## Complete Summary

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### **GUIDELINE TITLE**

Managing oral hydration. In: Evidence-based geriatric nursing protocols for best practice.

### **BIBLIOGRAPHIC SOURCE(S)**

Mentes JC. Managing oral hydration. In: Capezuti E, Zwicker D, Mezey M, Fulmer T, editor(s). Evidence-based geriatric nursing protocols for best practice. 3rd ed. New York (NY): Springer Publishing Company; 2008. p. 369-90. [82 references]

### **GUIDELINE STATUS**

This is the current release of the guideline.

## COMPLETE SUMMARY CONTENT

SCOPE  
METHODOLOGY - including Rating Scheme and Cost Analysis  
RECOMMENDATIONS  
EVIDENCE SUPPORTING THE RECOMMENDATIONS  
BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS  
IMPLEMENTATION OF THE GUIDELINE  
INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT  
CATEGORIES  
IDENTIFYING INFORMATION AND AVAILABILITY  
DISCLAIMER

## SCOPE

### **DISEASE/CONDITION(S)**

- Dehydration
- Volume depletion

### **GUIDELINE CATEGORY**

Evaluation  
Management  
Prevention  
Risk Assessment

### **CLINICAL SPECIALTY**

Geriatrics  
Nursing

## **INTENDED USERS**

Advanced Practice Nurses  
Allied Health Personnel  
Health Care Providers  
Nurses  
Physician Assistants  
Physicians

## **GUIDELINE OBJECTIVE(S)**

To minimize episodes of dehydration in older adults

## **TARGET POPULATION**

Older adults

## **INTERVENTIONS AND PRACTICES CONSIDERED**

### **Assessment**

1. Health history
2. Physical assessment
3. Laboratory tests
4. Fluid intake behavior
5. Risk factors for dehydration
  - Dehydration Appraisal Checklist

### **Management**

1. Acute hydration management
2. Ongoing hydration management
3. Follow-up monitoring

## **MAJOR OUTCOMES CONSIDERED**

- Dehydration
- Volume depletion
- Urinary tract infection
- Urinary incontinence
- Constipation
- Acute confusion

## **METHODOLOGY**

### **METHODS USED TO COLLECT/SELECT EVIDENCE**

Hand-searches of Published Literature (Primary Sources)  
Hand-searches of Published Literature (Secondary Sources)  
Searches of Electronic Databases

## **DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE**

Although the AGREE instrument (which is described in Chapter 1 of the original guideline document) was created to critically appraise clinical practice guidelines, the process and criteria can also be applied to the development and evaluation of clinical practice protocols. Thus the AGREE instrument has been expanded for that purpose to standardize the creation and revision of the geriatric nursing practice guidelines.

### **The Search for Evidence Process**

Locating the best evidence in the published research is dependent on framing a focused, searchable clinical question. The PICO format—an acronym for population, intervention (or occurrence or risk factor), comparison (or control), and outcome—can frame an effective literature search. The editors enlisted the assistance of the New York University Health Sciences librarian to ensure a standardized and efficient approach to collecting evidence on clinical topics. A literature search was conducted to find the best available evidence for each clinical question addressed. The results were rated for level of evidence and sent to the respective chapter author(s) to provide possible substantiation for the nursing practice protocol being developed.

In addition to rating each literature citation to its level of evidence, each citation was given a general classification, coded as "Risks," "Assessment," "Prevention," "Management," "Evaluation/Follow-up," or "Comprehensive." The citations were organized in a searchable database for later retrieval and output to chapter authors. All authors had to review the evidence and decide on its quality and relevance for inclusion in their chapter or protocol. They had the option, of course, to reject or not use the evidence provided as a result of the search or to dispute the applied level of evidence.

### **Developing a Search Strategy**

Development of a search strategy to capture best evidence begins with database selection and translation of search terms into the controlled vocabulary of the database, if possible. In descending order of importance, the three major databases for finding the best primary evidence for most clinical nursing questions are the Cochrane Database of Systematic Reviews, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and Medline or PubMed. In addition, the PsycINFO database was used to ensure capture of relevant evidence in the psychology and behavioral sciences literature for many of the topics. Synthesis sources such as UpToDate® and British Medical Journal (BMJ) Clinical Evidence and abstract journals such as *Evidence Based Nursing* supplemented the initial searches. Searching of other specialty databases may have to be warranted depending on the clinical question.

It bears noting that the database architecture can be exploited to limit the search to articles tagged with the publication type "meta-analysis" in Medline or

"systematic review" in CINAHL. Filtering by standard age groups such as "65 and over" is another standard categorical limit for narrowing for relevance. A literature search retrieves the initial citations that begin to provide evidence. Appraisal of the initial literature retrieved may lead the searcher to other cited articles, triggering new ideas for expanding or narrowing the literature search with related descriptors or terms in the article abstract.

## **NUMBER OF SOURCE DOCUMENTS**

Not stated

## **METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE**

Weighting According to a Rating Scheme (Scheme Given)

## **RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE**

### **Levels of Evidence**

**Level I:** Systematic reviews (integrative/meta-analyses/clinical practice guidelines based on systematic reviews)

**Level II:** Single experimental study (randomized controlled trials [RCTs])

**Level III:** Quasi-experimental studies

**Level IV:** Non-experimental studies

**Level V:** Case report/program evaluation/narrative literature reviews

**Level VI:** Opinions of respected authorities/Consensus panels

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## **METHODS USED TO ANALYZE THE EVIDENCE**

Systematic Review

## **DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE**

Not stated

## **METHODS USED TO FORMULATE THE RECOMMENDATIONS**

Expert Consensus

## DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

## RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

## COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

## METHOD OF GUIDELINE VALIDATION

External Peer Review  
Internal Peer Review

## DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

## RECOMMENDATIONS

### MAJOR RECOMMENDATIONS

Levels of evidence (I – VI) are defined at the end of the "Major Recommendations" field.

**Parameters of Assessment** (Mentes & the Iowa Veterans Affairs Nursing Research Consortium, 2004 [**Level I**])

- Health history
  - Specific disease states: dementia, congestive heart failure, chronic renal disease, malnutrition, and psychiatric disorders such as depression (Albert et al., 1989, 1994 [**both Level III**]; Warren et al., 1994 [**Level IV**])
  - Presence of co-morbidities: more than four chronic health conditions (Lavizzo-Mourey, Johnson, & Stolley, 1988 [**Level IV**])
  - Prescription drugs: number and types (Lavizzo-Mourey, Johnson, & Stolley, 1988 [**Level IV**])
  - Past history of dehydration, repeated infections (Mentes, 2006 [**Level IV**])
- Physical Assessments (Mentes & the Iowa Veterans Affairs Nursing Research Consortium, 2004 [**Level I**])
  - Vital signs
  - Height and weight
  - Body mass index (BMI)
  - Review of systems

- Indicators of hydration
- Laboratory Tests
  - Urine specific gravity (Wakefield et al., 2002; Mentes, Wakefield, & Culp, 2006 **[both Level IV]**)
  - Urine color (Wakefield et al., 2002; Mentes, Wakefield, & Culp, 2006 **[both Level IV]**)
  - Blood urea nitrogen (BUN)/creatinine ratio
  - Serum sodium
  - Serum osmolality
- Individual fluid intake behaviors (Mentes, 2006 **[Level IV]**)

## **Nursing-Care Strategies**

- Risk Identification (Mentes & the Iowa Veterans Affairs Nursing Research Consortium, 2004 **[Level I]**).
  - Identify acute situations: vomiting, diarrhea, or febrile episodes
  - Use a tool to evaluate risk: Dehydration Appraisal Checklist
- Acute Hydration Management
  - Monitor input and output (Weinberg et al., 1994 **[Level I]**).
  - Provide additional fluids as tolerated (Weinberg et al., 1994 **[Level I]**).
  - Minimize fasting times for diagnostic and surgical procedures (American Society of Anesthesiology Task Force on Preoperative Fasting, 1999 **[Level I]**).
- Ongoing Hydration Management
  - Calculate a daily fluid goal (Mentes & the Iowa Veterans Affairs Nursing Research Consortium, 2004 **[Level I]**).
  - Compare current intake to fluid goal (Mentes & the Iowa Veterans Affairs Nursing Research Consortium, 2004 **[Level I]**).
  - Provide fluids consistently throughout the day (Ferry, 2005 **[Level V]**; Simmons, Alessi, & Schnelle, 2001 **[Level II]**).
  - Plan for at-risk individuals
    - Fluid rounds (Robinson & Rosher, 2002 **[Level IV]**).
    - Provide two 8-oz. glasses of fluid, one in the morning and the other in the evening (Robinson & Rosher, 2002 **[Level IV]**).
    - "Happy Hours" to promote increased intake (Musson et al., 1990 **[Level V]**).
    - "Tea time" to increase fluid intake (Mueller & Boisen, 1989 **[Level V]**).
    - Offer a variety of fluids throughout the day (Simmons, Alessi, & Schnelle, 2001 **[Level II]**).
  - Fluid regulation and documentation
    - Teach able individuals to use a urine color chart to monitor hydration status (Armstrong et al., 1998; Armstrong et al., 1994; Mentes, Wakefield, & Culp, 2006 **[all Level IV]**).
    - Document a complete intake recording including hydration habits (Mentes & the Iowa Veterans Affairs Nursing Research Consortium, 2004 **[Level I]**).
    - Know volumes of fluid containers to accurately calculate fluid consumption (Burns, 1992 **[Level IV]**; Hart & Adamek, 1984 **[Level III]**).

- Maintenance of body hydration (Mentes & Culp, 2003 [**Level III**]; Robinson & Rosher, 2002 [**Level IV**]; Simmons, Alessi, & Schnelle, 2001 [**Level II**]).

### **Follow-Up Monitoring of Condition**

- Urine color chart monitoring in residents with better renal function (Armstrong et al., 1994, 1998; Wakefield et al., 2002 [**all Level IV**]).
- Urine specific-gravity checks (Armstrong et al., 1994, 1998; Wakefield et al., 2002 [**all Level IV**]).
- 24-hour intake recording (Metheny, 2000 [**Level VI**]).

### **Definitions:**

#### **Levels of Evidence**

**Level I:** Systematic reviews (integrative/meta-analyses/clinical practice guidelines based on systematic reviews)

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### **CLINICAL ALGORITHM(S)**

None provided

## **EVIDENCE SUPPORTING THE RECOMMENDATIONS**

### **REFERENCES SUPPORTING THE RECOMMENDATIONS**

[References open in a new window](#)

### **TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS**

The type of supporting evidence is identified and graded for selected recommendations.

## BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

### POTENTIAL BENEFITS

- Decreased infections, especially urinary tract infections
- Improvement in urinary incontinence
- Normal urinary pH
- Decreased constipation
- Decreased acute confusion

### POTENTIAL HARMS

Not stated

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

## INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

### IOM CARE NEED

Getting Better  
Staying Healthy

### IOM DOMAIN

Effectiveness

## IDENTIFYING INFORMATION AND AVAILABILITY

### BIBLIOGRAPHIC SOURCE(S)

Mentes JC. Managing oral hydration. In: Capezuti E, Zwicker D, Mezey M, Fulmer T, editor(s). Evidence-based geriatric nursing protocols for best practice. 3rd ed. New York (NY): Springer Publishing Company; 2008. p. 369-90. [82 references]

### ADAPTATION

Not applicable: The guideline was not adapted from another source.

### DATE RELEASED

2008



**GUIDELINE DEVELOPER(S)**

Hartford Institute for Geriatric Nursing - Academic Institution

**SOURCE(S) OF FUNDING**

Hartford Institute for Geriatric Nursing

**GUIDELINE COMMITTEE**

Not stated

**COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE**

*Primary Author:* Janet C. Mentes

**FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST**

Not stated

**GUIDELINE STATUS**

This is the current release of the guideline.

**GUIDELINE AVAILABILITY**

Electronic copies: Available from the [Hartford Institute for Geriatric Nursing Web site](#).

Copies of the book *Geriatric Nursing Protocols for Best Practice*, 3rd edition: Available from Springer Publishing Company, 536 Broadway, New York, NY 10012; Phone: (212) 431-4370; Fax: (212) 941-7842; Web: [www.springerpub.com](http://www.springerpub.com).

**AVAILABILITY OF COMPANION DOCUMENTS**

None available

**PATIENT RESOURCES**

None available

**NGC STATUS**

This NGC summary was completed by ECRI Institute on June 16, 2008. The information was verified by the guideline developer on August 4, 2008.

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